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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,689	08/27/2001	Michael Knaupp	340058.534	4320
500	7590	02/15/2006	EXAMINER	
SEED INTELLECTUAL PROPERTY LAW GROUP PLLC			PRONE, JASON D	
701 FIFTH AVE			ART UNIT	
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SEATTLE, WA 98104-7092			3724	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/940,689	Applicant(s) KNAUPP ET AL.	
	Examiner Jason Prone	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2005.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-22 and 24-43 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1,3,8,9,11,13,15,17,19,21,24,26,29,33,34,36,37,39,40,42 and 43 is/are rejected.
 7) ☒ Claim(s) 4-7,10,12,14,16,18,20,22,25,27,28,30-32,35,38 and 41 is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
 * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>11/30/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The indicated allowability of claims 11, 13, 15, 17, 19, 21, 24, 26, 29, 33, 34, 36, 37, 39, 40, 42, and 43 is withdrawn after further consideration with regards to references Stewart et al., Shepherd et al., Hoffman et al., Gerber, and newly discovered Hoaki.

Specification

2. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

In this case, the abstract appears to be over the 150 word maximum.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 13, 15, 17, 19, and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Stewart et al. (6,379,214).

In regards to claim 13, Stewart et al. discloses the same invention including a cutting head assembly (24, 26, and 174), a cutting head assembly having a body adapted to receive an orifice at an orifice location for generating a high pressure fluid jet (24, 26, and 174), a mixing tube positioned within the body of the cutting head downstream of the orifice location (26), a motion assembly (200) coupled to the cutting head via a clamp positioned around the body of the cutting head (160 and 132), a nozzle body assembly removably coupled to the cutting head assembly (120 is removed in Fig. 5), the clamp capable of holding the cutting head assembly when the nozzle body is separated from the cutting head assembly (160 is capable of holding items 24, 26, and 174 when item 120 is not connected).

In regards to claim 15, Stewart et al. discloses the clamp is provided with a triangular arranged alignment member to position the cutting head assembly in a predetermined location (166).

In regards to claim 17, Stewart et al. discloses the inner surface of the clamp is configured to contact an outer surface of the cutting head assembly at three points around the circumference of the cutting head such that the inner surface of the clamp forms the triangular arranged alignment member (160).

In regards to claim 19, Stewart et al. discloses a position sensor coupled to a clamp adjacent the cutting head (224).

In regards to claim 21, Stewart et al. discloses a shield coupled to an end region of the cutting head assembly (127), the shield surrounds an end region of the mixing tube (Fig. 4), and the shield is made of a flexible material (127, it is noted that all materials with the correct force will flex even if it is a little bit).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepherd et al. (2002/0066345) in view of Hoffman et al. (5,234,185). In regards to claim 1, Shepherd et al. discloses the invention including a cutting head having a body adapted to receive an orifice at an orifice location for generating a high pressure fluid jet (16), a mixing tube positioned within the body of the cutting head downstream of the orifice location (30), a motion assembly (48) coupled to the cutting head via a clamp positioned around the body of the cutting head (36), and the outer surface of the body mates with an inner surface of the clamp in a weight-bearing manner to vertically position and support the cutting head (36).

However, Shepherd et al. fail to disclose a raised member is provided on the outer surface of the body and a recess is provided on the inner surface of the clamp, the raised member mates with the recessed, and that the clamp has a quick-release mechanism.

Hoffman et al. teaches that it is old and well known in the art of clamping to have a raised member that is provided on the outer surface of the body (28) and a recess is provided on the inner surface of the clamp (22), the raised member mates with the recessed (Fig. 2), and the clamp has a quick-release mechanism (32). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Shepherd et al. the clamp, as taught by Hoffman et al., to allow for a more secure fit and an easier way to remove the clamp.

7. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepherd et al. in view of Hoffman et al. as applied to claim 1 above, and further in view of Stewart et al. (6,379,214). Shepherd et al. and Hoffman et al. disclose the invention but fail to disclose a position sensor coupled to the clamp adjacent the cutting head and a flexible shield coupled to and surrounding an end region of the mixing tube.

Stewart et al. teaches position sensor coupled to a clamp adjacent the cutting head (224), a shield coupled to an end region of the cutting head assembly (127), and the shield is made of a flexible material (127, it is noted that all materials with the correct force will flex even if it is a little bit). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Shepherd et al. in view of Hoffman et al. with a position sensor and a shield, as taught by Stewart et al., to allow for a more precise cut and to prevent unwanted materials coming into contact with the jet.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shepherd et al. in view of Hoffman et al. as applied to claim 1 above, and further in view

of Hoaki (4,900,198). Shepherd et al. and Hoffman et al. disclose the invention including a high-pressure fluid assembly with high-pressure tubing coupled to the cutting head (22 and 23 of Shepherd et al.).

However, Shepherd et al. and Hoffman et al. fail to disclose the high-pressure fluid assembly has a swivel through which high-pressure tubes pass to deliver-pressure fluid to the cutting head, the swivel allowing the tubing to follow motion imparted by the motion assembly.

Hoaki teaches a high-pressure fluid assembly that has a swivel allowing tubing to follow motion imparted thereon (12). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Shepherd et al. in view of Hoffman et al. with a swivel, as taught by Hoaki, to prevent the high-pressure tubes from getting tangled while the machine moves.

9. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. in view of Gerber (3,877,334). Stewart et al. disclose the invention but fail to disclose a disk of hard material is positioned in an upper inner region of the shield.

Gerber teaches a shield with a disk of hard material is positioned in an upper inner region (inner top surface of 70). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Stewart et al. with a shield, as taught by Gerber, to cover a larger surface area.

10. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. in view of Hoaki. Stewart et al. disclose the invention including a high-pressure fluid assembly with high-pressure tubing coupled to the cutting head (23).

However, Stewart et al. fail to disclose the high-pressure fluid assembly has a swivel through which high-pressure tubes pass to deliver-pressure fluid to the cutting head, the swivel allowing the tubing to follow motion imparted by the motion assembly.

Hoaki teaches a high-pressure fluid assembly that has a swivel allowing tubing to follow motion imparted thereon (12). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Stewart et al. with a swivel, as taught by Hoaki, to prevent the high-pressure tubes from getting tangled while the machine moves.

11. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shepherd et al. in view of Hoffman et al. Shepherd et al. discloses the invention including a cutting head assembly having a body adapted to receive an orifice at an orifice location for generating a high pressure fluid jet (16), a mixing tube positioned within the body of the cutting head downstream of the orifice location (30), and a motion assembly (48) coupled to the cutting head via a clamp positioned around the body of the cutting head (36).

However, Shepherd et al. fail to disclose a clamp with a quick-release mechanism.

Hoffman et al. teaches that it is old and well known in the art of clamping to have a clamp that has a quick-release mechanism (32). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Shepherd et al. the clamp, as taught by Hoffman et al., to allow for a user to easily remove the cutting head without having to take apart the entire apparatus.

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12. Claims 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepherd et al. in view of Hoffman et al. as applied to claim 1 above, and further in view of Stewart et al. Shepherd et al. and Hoffman et al. disclose the invention but fail to disclose a position sensor coupled to the clamp adjacent the cutting head and a flexible shield coupled to and surrounding an end region of the mixing tube.

Stewart et al. teaches position sensor coupled to a clamp adjacent the cutting head (224), a shield coupled to an end region of the cutting head assembly (127), and the shield is made of a flexible material (127, it is noted that all materials with the correct force will flex even if it is a little bit). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Shepherd et al. in view of Hoffman et al. with a position sensor and a shield, as taught by Stewart et al., to allow for a more precise cut and to prevent unwanted materials coming into contact with the jet.

13. Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shepherd et al. in view of Hoffman et al. as applied to claim 1 above, and further in view of Hoaki. Shepherd et al. and Hoffman et al. disclose the invention including a high-pressure fluid assembly with high-pressure tubing coupled to the cutting head (22 and 23 of Shepherd et al.).

However, Shepherd et al. and Hoffman et al. fail to disclose the high-pressure fluid assembly has a swivel through which high-pressure tubes pass to deliver-pressure fluid to the cutting head, the swivel allowing the tubing to follow motion imparted by the motion assembly.

Hoaki teaches a high-pressure fluid assembly that has a swivel allowing tubing to follow motion imparted thereon (12). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Shepherd et al. in view of Hoffman et al. with a swivel, as taught by Hoaki, to prevent the high-pressure tubes from getting tangled while the machine moves.

14. Claim 37 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. in view of Hoaki. Stewart et al. disclose the same invention including a cutting head assembly (24, 26, and 174), a cutting head assembly having a body adapted to receive an orifice at an orifice location for generating a high pressure fluid jet (24, 26, and 174), a mixing tube positioned within the body of the cutting head downstream of the orifice location (26), a motion assembly (200) coupled to the cutting head via a clamp positioned around the body of the cutting head (160 and 132), a nozzle body assembly removably coupled to the cutting head assembly (120 is removed in Fig. 5), the clamp capable of holding the cutting head assembly when the nozzle body is separated from the cutting head assembly (160 is capable of holding items 24, 26, and 174 when item 120 is not connected), a shield coupled to an end region of the cutting head assembly and surrounding an end region of the mixing tube (127), and a high-pressure fluid assembly with high-pressure tubing coupled to the cutting head (23).

However, Stewart et al. fail to disclose the high-pressure fluid assembly has a swivel through which high-pressure tubes pass to deliver-pressure fluid to the cutting head, the swivel allowing the tubing to follow motion imparted by the motion assembly (23).

Hoaki teaches a high-pressure fluid assembly that has a swivel allowing tubing to follow motion imparted thereon (12). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Stewart et al. with a swivel, as taught by Hoaki, to prevent the high-pressure tubes from getting tangled while the machine moves.

15. Claims 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. in view of Shepherd et al. In regards to claim 39, Stewart et al. discloses the invention including an end effector assembly coupled to a ram for motion along a vertical axis (206), the ram being coupled to a bridge for motion along an axis parallel to a longitudinal axis of the bridge (202), the end effector comprising a body adapted to receive an orifice at an orifice location for generating a high pressure fluid jet (24, 26, and 174), a mixing tube positioned within the body of the cutting head downstream of the orifice location (26), a motion assembly (200) coupled to the cutting head via a clamp positioned around the body of the cutting head (160 and 132), a nozzle body assembly removably coupled to the cutting head assembly (120 is removed in Fig. 5), the clamp capable of holding the cutting head assembly when the nozzle body is separated from the cutting head assembly (160 is capable of holding items 24, 26, and 174 when item 120 is not connected).

In regards to claim 42, Stewart et al. discloses the cutting head assembly is coupled to a source of high-pressure fluid (50) and to a source of abrasive (Abstract line 3).

However, Stewart et al. fail to disclose the bridge is movable in a direction perpendicular to its longitudinal axis.

Shepherd et al. teaches that it is old and well known in the art of water jet cutters to incorporate a bridge that is movable in a direction perpendicular to its longitudinal axis (48). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Stewart et al. with X or Y direction moving bridge, as taught by Shepherd et al., to give the cutter the ability to cut a larger surface area without having to move the work piece.

16. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. in view of Shepherd et al. as applied to claim 1 above, and further in view of Hoaki. Stewart et al. and Shepherd et al. disclose the invention including a high-pressure fluid assembly with high-pressure tubing coupled to the cutting head (23 of Stewart et al.).

However, Stewart et al. and Shepherd et al. fail to disclose the high-pressure fluid assembly has a swivel through which high-pressure tubes pass to deliver-pressure fluid to the cutting head, the swivel allowing the tubing to follow motion imparted by the motion assembly.

Hoaki teaches a high-pressure fluid assembly that has a swivel allowing tubing to follow motion imparted thereon (12). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Stewart et al. in view of Shepherd et al. with a swivel, as taught by Hoaki, to prevent the high-pressure tubes from getting tangled while the machine moves.

17. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stewart et al. in view of Shepherd et al. Stewart et al. discloses the end effector including a body adapted to receive an orifice at an orifice location for generating a high pressure fluid jet (24, 26, and 174), a mixing tube positioned within the body of the cutting head downstream of the orifice location (26), a motion assembly (200) coupled to the cutting head via a clamp positioned around the body of the cutting head (160 and 132), a nozzle body assembly removably coupled to the cutting head assembly (120 is removed in Fig. 5), the clamp capable of holding the cutting head assembly when the nozzle body is separated from the cutting head assembly (160 is capable of holding items 24, 26, and 174 when item 120 is not connected).

However, Stewart et al. fail to disclose the end effector assembly is coupled to a two-dimensional manipulator.

Shepherd et al. teaches that it is old and well known in the art of water jet cutters to incorporate an end effector assembly is coupled to a two-dimensional manipulator (48). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to have provided Stewart et al. with X or Y direction movement, as taught by Shepherd et al., to give the cutter the ability to cut a larger surface area without having to move the work piece.

Allowable Subject Matter

18. Claims 4-7, 10, 12, 14, 16, 18, 20, 22, 25, 27, 28, 30-32, 35, 38, and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if

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rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

19. Applicant's arguments filed 30 November 2005 have been fully considered but they are not persuasive. With regard to the remarks section page 11 of the response received on 11/30/05, the following statement was made "The undersigned wishes to thank the Examiner for his time discussing the present application on the telephone, and provisionally agreeing that amending the claims to refer to a cutting head rather than a cutting head assembly throughout, would place the claims in condition for allowance.". During this discussion it was pointed out to the attorney that the examiner does not have the authority to agree to any matter and the examiner was only able to determine if proposed claim amendments would overcome a current rejection. An amendment of replacing "cutting head assembly" with "cutting head" was discussed with regards to the current rejection. At that time, after listening to the attorney's arguments, it appeared the new language would over come the Shepherd et al. reference. However, after further review, the Shepherd et al. reference clearly labels the water jet cutter as a waterjet head 16. Therefore, the apparatus labeled as 16 is also considered a cutting head and clamp 36 clearly is positioned around the cutting head. After further consideration, the new rejections under the Stewart et al. reference are appropriate.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Prone whose telephone number is (571) 272-4513. The examiner can normally be reached on 7:30-5:00, Mon - (every other) Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on (571) 272-4514. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

February 08, 2006



Patent Examiner
Jason Prone
Art Unit 3724
T.C. 3700